Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

Claim 1 (currently amended): A microscope system for the analysis and evaluation of multiple colorings in a microscopic specimen, comprising:

a scanning microscope that defines an illuminating light beam and a detected light beam;

an SP module that is arranged in the detected light beam in front of at least one detector; and a computer system with a memory, wherein a database is provided in which discrete dye spectra are stored;

the computer system encompasses a software program that performs a transformation of the data of the ascertained spectra and a transformation of the dye spectra stored in the database; and

the software program allocates the transformed dye spectra to ~~the~~ measured spectra, in which context a comparison can be performed,

wherein the comparison is accomplished by way of a distance dimension in a projection space.

Claim 2 (canceled)

Claim 3 (currently amended): The microscope system as defined in Claim 1, wherein the comparison is accomplished by way of ~~the~~ a distance and ~~the~~ an orientation of local clusters in the projection space.

Claim 4 (original): The microscope system as defined in Claim 1, wherein the transformed data can be presented on a display.

Claim 5 (currently amended): A method for the analysis and evaluation of multiple colorings in a microscopic specimen using a scanning microscope, comprising the

following steps:

a) recording spectra of dyes present in the specimen using an SP module, and ascertaining the electrical signals representing the spectra:

b) performing a transformation of the data of the ascertained spectra, performing the transformation of the dye spectra stored in a database:

c) dividing ~~the~~ a transformation space into regions, each of which is allocated to a certain dye; and

d) allocating the dye spectra to ~~the~~ measured spectra by way of a comparison in the transformation space,

wherein the comparison of the ascertained spectra to reference spectra is accomplished on the basis of a distance dimension.

Claim 6 (canceled)

Claim 7 (currently amended): The method as defined in Claim 5, wherein the comparison of the ascertained spectra to the reference spectra is accomplished on the basis of a distance dimension and ~~the~~ directions of the eigenvectors of the covariance matrix.

Claim 8 (currently amended): The method as defined in Claim 5, wherein the allocation of the dye spectra to the measured spectra is accomplished on the basis of ~~the~~ a "nearest neighbor" method in the transformation space.